

1. An exercising and physiotherapy system, comprising:
a frame defining a space within which a user is positioned
for exercising,

5 a collection of flexible bars, sufficiently flexible to bend
when engaged in exercising movements by a user, including bars in
a range of different stiffnesses,

the frame having bar support means for receiving and holding
the bars, by engaging the bars near both ends of the bars, and
10 for allowing the bars to pull inwardly relative to the frame as
the bars are flexed during use, and

the bar support means being in a plurality of locations on
the frame for positioning one or more bars in a multiplicity of
different locations for a plurality of different exercises for
15 different exercising users.

2. The system of claim 1, wherein the bar support means
provides for receiving and holding the bars in both vertical and
horizontal bar positions.

20 3. The system of claim 1, wherein the flexible bars are
formed of a plastic material.

4. The system of claim 1, wherein the plastic material is

acetal.

5 5. The system of claim 1, wherein the bar support means comprises upright bar support frame members having series of holes into which the two ends of a bar are placed, such that two holes retaining a bar are positioned at corresponding locations at opposite sides of the frame.

10 6. The system of claim 5, wherein the holes in the bar support frame members have beveled or rounded edges so as to prevent scraping and abrasion of the surface of the bar during use in exercising.

15 7. The system of claim 6, wherein the bars are formed of a plastic material.

20 8. The system of claim 5, wherein the bars have enlarged heads on their ends, smaller than the holes in the frame members so as to be insertable into the holes but substantially retaining the bar in the frame during exercising use.

9. The system of claim 8, wherein the heads on the bars are only slightly smaller than the holes in the frame members, such that when a bar is in use and flexed under the force of an

exercise, the bar will not pull out of the holes due to an obliquely angled position of the end of the bar in the hole, preventing the head from pulling through the hole.

5 10. The system of claim 8, wherein the collection of flexible bars have varying flexibility, in a range permitting from about 1 pounds force applied at the middle of a bar when supported in the frame to obtain a three inch deflection at the middle, to about 400 pounds force applied at the middle of a bar
10 when supported in the frame to obtain a three inch deflection at the middle.

 11. The system of claim 5, wherein the upright frame members comprise vertical bar support members having series of
15 hubs along their lengths, the bar support members extending between horizontal frame members of the frame and being adjustable in position along the length of the horizontal frame members.

20 12. The system of claim 11, wherein the vertical bar support members are slidably fitted between the horizontal frame members so as to permit horizontal sliding adjustment, and including releasable fastener means at one end of each moveable vertical elongated member, to lock the elongated member in a

selected position.

13. The system of claim 12, wherein the vertical bar
support members have slide brackets at top and bottom ends of the
5 vertical bar support members, the brackets being channel-shaped
with channels open upwardly at tops of the bar support members
and downwardly at bottoms of bar support members, and with the
channels engaged over edges of the horizontal frame members so as
to permit such horizontal sliding adjustment.

10 14. The system at claim 13, wherein the releasable fastener
means comprises set screws with hand-operable knobs, the set
screws being received in threaded holes in the slide brackets so
as to engage against the horizontal frame member when tightened.

15 15. The system of claim 12, wherein the releasable fastener
means at one end of each moveable vertical bar support member
comprises at least one set screw connected to a knob and
rotatable in a threaded hole of the vertical bar support member,
20 to engage against one of said horizontal frame members when the
knob and said screw are tightened.

16. The system of claim 8, wherein at least some of the
bars further include an enlarged disc spaced inward of the

enlarged head relative to the bar, at least near one end of the bar, the enlarged disc at one end of the bar being larger than said holes so as to block the bar from extending more deeply into a hole than the position of the disc.

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17. The system of claim 16, including said discs spaced inwardly from both ends of the bar.

10 18. The system of claim 16, wherein the bar support means provides for holding the bars in both vertical and horizontal bar positions, the frame including horizontally extending frame members having holes for receiving the bars in vertical position, and the discs supporting the bars from dropping further into the hole beyond the discs.

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19. The system of claim 1, wherein the bar support means provides for holding the bars in both horizontal and vertical positions, the frame including horizontal bar support frame members having holes for receiving ends of the bars between
20 spaced apart pairs of horizontal bar support frame members so as to permit exercising with one or more vertically positioned bars.

20. The system of claim 19, wherein the horizontal bar support frame members with holes are positioned such as to permit

exercising the hands and arms with the user in a standing position.

21. The system of claim 1, further including a foot
5 platform for supporting the weight of a user, the foot platform being connected to two of said flexible bars, said two bars being supported near their ends by the frame.

22. The system of claim 1, further including an angled foot
10 platform secured to the frame, near an end of the frame, tilted toward said space defined by the frame, to facilitate certain exercises wherein the user's body is in an oblique or generally horizontal position.

15 23. The system of claim 1, wherein some of the bars are sufficiently stiff as to support the full weight of a user with the bar suspended on the frame.

20 24. The system of claim 5, wherein the upright frame members comprise vertical bar support members having series of holes, the bar support members extending between horizontal frame members of the frame and being adjustable in position along the length of the horizontal frame members, and the horizontal frame members providing at least two different levels in which the

vertical bar support members are connected.

25. The system of claim 24, wherein the horizontal frame members provide three levels where the vertical bar support members are connected.

26. The system of claim 1, wherein the frame is at least about six feet in height and at least about four feet in width as measured between bar support means at opposing sides of the frame.

27. The system of claim 26, wherein the frame is at least about seven feet in height.

28. The system of claim 1, including pairs of flexible bars of substantially equal stiffness.

29. The system of claim 5, including a sufficient number of said upright bar support frame members to enable exercises in which the flexible bars are positioned on each side of a person during exercising.

30. The system of claim 29, including at least about twelve of the upright bar support frame members, each said bar support

member having at least about six holes for different bar positions.

31. A method for exercising a person using a frame which
5 defines a space within which the person is positioned for exercising, comprising:

selecting at least one bar from a series of flexible bars which yield and bend significantly during exercising, the bars being of a series of different flexibilities,

10 supporting the bar or bars on the frame, by engaging the bars on the frame near both ends of the bars, allowing the bars to pull inwardly relative to the frame with a minimum of friction as the bars are flexed during use, and

15 exercising the person by the person's standing within the space defined by the frame and gripping at least one of the flexible bars with at least one hand, and performing an exercise by applying force to and bending the at least one bar repetitively.

20 32. The method of claim 31, with the person in a standing position, lifting most of the person's weight using the arms while bending the at least one flexible bar.

33. The method of claim 31, with the person in a standing

position, and with at least two bars extending vertically in the frame, with the person moving the bars toward and away from each other.

5 34. The method of claim 31, wherein the frame includes an angled, high-friction foot platform, with the person engaging the feet against the foot platform and the person being positioned at an oblique angle within the space defined by the frame, while performing push-ups with the hands gripping said one flexible
10 bar.

 35. The method of claim 31, with the person gripping two parallel flexible bars with the hands, standing between the two parallel bars, and shrugging the shoulders up and down to bend
15 the bars for exercising resistance.

 36. The method of claim 31, including positioning flexible bars both behind and in front of the exercising person, and including the person's pushing one flexible bar forward with the
20 hands while bracing the back of the person against the other flexible bar.

 37. The method of claim 31, including placing two flexible bars in the frame, one lower bar positioned to be engaged against

the back of the person and the other upper bar positioned higher for gripping by the hands of the person, and including arching the back and leaning back against the lower bar while pulling on the other bar with the hands to raise the body, and then lowering the body, to thus slide the back on the lower bar between the lumbar and upper thoracic areas of the spine, thus placing linear traction in an extended mode on the lumbar spine and tending to alleviate hyperkyphosis.

38. The method of claim 31, including exercising with at least two of the flexible bars positioned in the frame, the hands being placed on one bar and the other bar being against the back or torso.

39. A method for exercising using flexible, bendable bars retained in a frame, comprising:

selecting from at least one bar from a series of flexible bars which yield and bend significantly during exercising, the bars being of a series of different flexibilities,

placing the bar or bars in the frame such that the bar or bars are suspended near both ends of each bar,

the user standing on a foot platform which is suspended resiliently from the frame while gripping at least one of the flexible bars with the hands, and exercising by deflecting the

bar or bars while at least partially lifting the weight of the user and while standing on the resiliently suspended platform.

40. The method of claim 39, wherein the exercise comprises
5 a pull-up exercise using a single flexible bar.

41. A method for exercising using flexible, bendable bars retained in a frame, comprising:

10 selecting at least one bar from a series of flexible bars which yield and bend significantly during exercising, the bars being of a series of different flexibilities,

placing two of the flexible bars vertically and spaced apart in the frame, supported in the frame near their ends, and

15 in a standing position, the exercising user's placing the hands on the two spaced apart flexible bars and flexing the bars toward one another and away from one another to exercise arm and shoulder muscles.

42. The method of claim 41, further including placing a
20 platform on the frame, resiliently suspended on the frame, and the exercising user's running in place on the platform simultaneously with flexing the vertically oriented bars.